Dart Aerospace Ltd.

Date: Tuesday, 8/1/2006 11:22:00 AM
User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	**Drawing Name**	: 0H-58 SKIDTUBE ASSEMBLY
Job Number	: 28047A		
Estimate Number	: 10475		
P.O. Number	: N/A	**Part Number**	: D058672041
This Issue	: 8/1/2006 **S.O. No.** : N/A	**Drawing Number**	: D2922 REV A1
Prsht Rev.	: NC N/A	**Project Number**	: N/A
First Issue	: N/A **Type** : LANDING GEAR	**Drawing Revision**	: A1
Previous Run	: 28046A	**Material**	: N/A
Written By	:	**Due Date**	: 8/8/2006 **Qty:** 1 **Um:** Each
Checked & Approved By	: KJ 06.08.01		
Comment	: Est Rev:C 02.06.28 Re-format; ECN 258 KJ Est Rev:D 06.02.06 Added Dt8025 EC		

Additional Product

Job Number:

Seq. #:	Machine Or Operation:	Description :
1.0	DC	DOCUMENT CONTROL

Comment: DOCUMENT CONTROL
Photocopy bluefile & type labels per PPP D058-672-041 CHG 001 06.08.04 KP

Seq. #:	Machine Or Operation:	Description :
2.0	D2620	Bent 206 Skidtube

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2620	Bent Tube 3" OD	B 27831 BE 06-08-15

Seq. #:	Machine Or Operation:	Description :
3.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1

1-Deburr Fwd edge of tube BE 06-08-15

2-Cut aft end of D2620 bent tube as per dwg D2922 BE 06-08-16

3-Drill pilot holes using drill jig DT8480 and DT8025 open to 0.312" dia. BE 06-08-17

4-Drill holes for wearplates using DT 8487Open to 0.297" dia. BE 06-08-17

5-Drill holes for aft cap as per Dwg D2922using drill jig DT 8025.Open using #6 Drill Bit BE 06-08-17

7-Remove inner indexing ridge on aft end of skidtubeas per Dwg D2922 BE 06-08-17

8-Deburr and Blow out all chips form inside the tube BE 06-08-17

9-Weld D2794 cap as per QSI 004 and Dwg D2922. Use aluminum rod. BE 06-08-15

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: ________________ **PAR #:** _______ **Fault Category:** ________________ **NCR:** Yes No **DQA:** ________ **Date:** __________

NOTE: Date & initial all entries **QA: N/C Closed:** ________ **Date:** __________

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Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** 0H-58 SKIDTUBE ASSEMBLY

Job Number: 28047A **Part Number:** D058672041

Job Number:

Seq. #:	Machine Or Operation:	Description :
	A/R Aluminum Rod	M 18839/M/00660 BE 06-08-15
4.0	HAND FINISHING1	HAND FINISHING RESOURCE #1

Comment: HAND FINISHING RESOURCE #1
Chemical Conversion Coat as per QSI 005 4.1 BK 06-08-17

5.0	D2923	Web

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2923	Web	B 27421

PMC 06-08-18 (1)

6.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1

1-Open holes to finished size as per Dwg D2922(without cutting fluid)

2-Countersink crossbolt spacer holes as per Dwg D2922(without cutting fluid)

3-Deburr and Blow out all chips from inside the tube

DP 6-8-17

4-Bond D2923 web in place as per QSI 015. Ensure holes lineup
A/R Sikaflex-291 M101855
Sikaflex expire date: 07-02-01

PMC 06-08-18 (1)

7.0	QC5	INSPECT WORK TO CURRENT STEP

J 06-08-22 (1)

Comment: INSPECT WORK TO CURRENT STEP

8.0	D2794	Cap

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Qty	Part Number	Description	Batch
1	D2794	Fwd Cap	B 14400 BE 06-08-15

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: ________________ **PAR #:** _______ **Fault Category:** _______________ **NCR:** Yes No **DQA:** ________ **Date:** __________

NOTE: Date & initial all entries **QA: N/C Closed:** ________ **Date:** __________

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Customer: CU-DAR001 Dart Helicopters Services
Drawing Name: 0H-58 SKIDTUBE ASSEMBLY

Job Number: 28047A
Part Number: D058672041

Job Number:

Seq. #:	Machine Or Operation:	Description :
9.0	D2649	Crossbolt Spacer

Comment: Qty.: 22.0000 Each(s)/Unit Total : 22.0000 Each(s)
Pick:
Qty Part Number Description Batch
22 D2649 Crossbolt spacer B25864 BE 06-08-22

10.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1

1-Weld D2649 cross bolt spacers as per QSI 004 and Dwg D2922.(Remember to back drill each hole to 0.250" before welding the other side)
A/R Aluminum Rod m18839 BE 06-08-22

3-Grind welds flush as per Dwg D2922 BE 06-08-23

4-Counterbore 5/16" x 0.750" deep as per Dwg D2922 PM 06-08-24 (1)

11.0	QC5/9	WELD INSPECTION

J 06-08-30 (1)

Comment: WELD INSPECTION PD 06-08-24 (1)

12.0	POWDER COATING	POWDER COATING

Comment: POWDER COATING
Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3 a.m 06-09-02 (1)

13.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION

Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION PL 06/09/03 (1)

14.0	D26483	Wearpad

Comment: Qty.: 5.0000 Each(s)/Unit Total : 5.0000 Each(s)
Pick:
Qty Part Number Description Batch
5 D2648-3 Wearpad B27169-2 PL 06/09/03 (1)

Dart Aerospace Ltd

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: ________ **PAR #:** ______ **Fault Category:** ________ **NCR:** Yes No **DQA:** ______ **Date:** ______

NOTE: Date & initial all entries **QA: N/C Closed:** ______ **Date:** ______

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Job Number: 28047A
Part Number: D058672041

Job Number:

Seq. #: **Machine Or Operation:** **Description :**

15.0 D265615 Wearplate

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2656-15	Wearshoe	B24845

16.0 D265621 Wearplate

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2656-21	Wearshoe	B20917

17.0 D2924 Wearshoe

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2924	Wearshoe	M12425

18.0 MS27039108 Screw

Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s) check inv.
Pick:

Qty	Part Number	Description	Batch
50	MS27039-1-08	Screw	M19551

19.0 AN960JD10L Washer

Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
50	AN960JD10L	Washer	M100233

AL 06/09/03 ①

Dart Aerospace Ltd

W/O:	WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:	WORK ORDER NON-CONFORMANCE (NCR)							
			Corrective Action Section B					
DATE	STEP	Description of NC Section A	Initial Design Mgr	Action Description Design Mgr	Sign & Date	Verification Section C	Approval Design Mgr	Approval QC Inspector

Part No: ________________ **PAR #:** _______ **Fault Category:** ________________ **NCR:** Yes No **DQA:** ________ **Date:** __________

NOTE: Date & initial all entries **QA: N/C Closed:** ________ **Date:** __________

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Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** 0H-58 SKIDTUBE ASSEMBLY

Job Number: 28047A **Part Number:** D058672041

Job Number:

Seq. #:	**Machine Or Operation:**	**Description :**
20.0	ALS41032130	Insert

Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
50	ALS4-1032-130 or (see QSI 017)	Insert	M19393

check inv.

21.0	D26511	Plug

Comment: Qty.: 20.0000 Each(s)/Unit Total : 20.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
20	D2651-1	Plugs	B27362

22.0	D26513	O-Ring

Comment: Qty.: 20.0000 Each(s)/Unit Total : 20.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
20	D2651-3	O-Rings	B25866

23.0	D2646	Aft Cap

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
1	D2646	Aft Cap	B28041

24.0	MS27039108	Screw

Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
2	MS27039-1-08	Screw	M19551

DL 04/09/03 (1)

Form: rprocess

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: ______ PAR #: ______ Fault Category: ______ NCR: Yes (No) DQA: [signature] Date: 06/09/06

NOTE: Date & initial all entries

QA: N/C Closed: ______ Date: ______

Date: Tuesday, 8/1/2006 11:22:01 AM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** 0H-58 SKIDTUBE ASSEMBLY

Job Number: 28047A **Part Number:** D058672041

Job Number:

Seq. #:	Machine Or Operation:	Description :
25.0	AN960JD10L	Washer

Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)
Pick:

Qty	Part Number	Description	Batch
2	AN960JD10L	Washer	M100233

DL 06/09/03 (1)

Seq. #:	Machine Or Operation:	Description :
26.0	HAND FINISHING1	HAND FINISHING RESOURCE #1

Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearpads as per dwg D2922. Insert a drop of Sikaflex at insert hole before installing wearplates.
A/R Sikaflex-291 M101953
Sikaflex expire date: 10/06

2-Install O-Rings D2651-3 on plugs D2651-1 with Petroleum Jelly and install plugs as per Dwg D2922

3-Install D2646 Aft Cap and seal with Sikaflex adhesive.Clean excess adhesive
A/R Sikaflex-291 M101953
Sikaflex expire date: 10/06

DL 06/09/05 (1)

3- Wing Walk as per Dwg D2922 and QSI 005 4.4 Batch:
M101667 DL 06/09/05 (1)

Seq. #:	Machine Or Operation:	Description :
27.0	QC3/5	INSPECT WORK/WING WALK

06.09.05 (1)

Comment: INSPECT WORK/WING WALK

Seq. #:	Machine Or Operation:	Description :
28.0	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1
Identify and Stock
Location:_______

N/A

Seq. #:	Machine Or Operation:	Description :
29.0	DC	DOCUMENT CONTROL

Comment: DOCUMENT CONTROL
Inspection Level 21

06/09/06

Job Completion

06-09-06

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: ______________ **PAR #:** ______ **Fault Category:** ______________ **NCR:** Yes No **DQA:** ________ **Date:** __________

NOTE: Date & initial all entries

QA: N/C Closed: ________ **Date:** __________

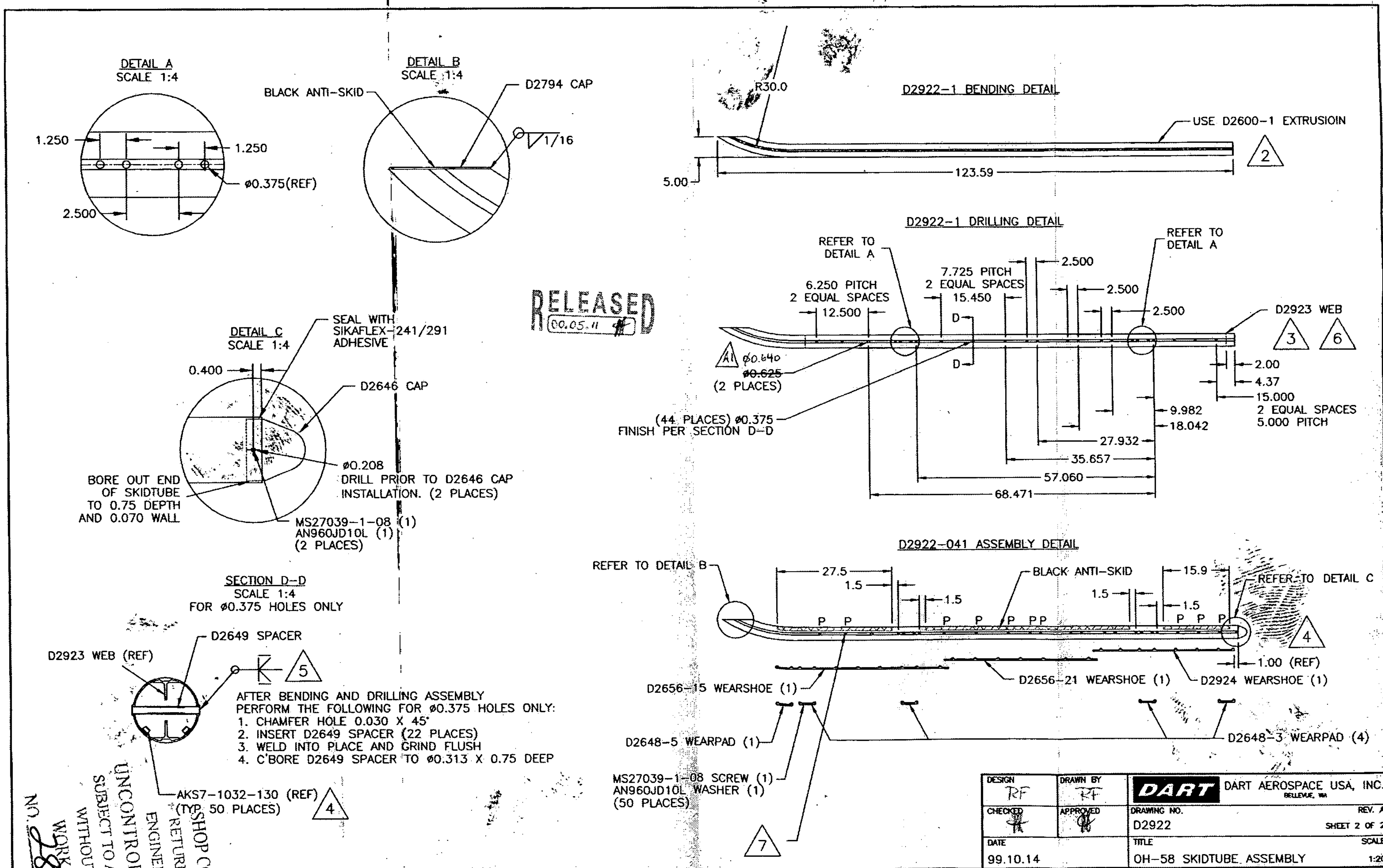
DESIGN RF	DRAWN BY RF	DART AEROSPACE USA, INC. BELLEVUE, WA	
CHECKED	APPROVED	DRAWING NO. D2922	REV. A SHEET 1 OF 2
DATE 99.10.14		TITLE OH-58 SKIDTUBE ASSEMBLY	SCALE NTS
A	99.10.14	NEW ISSUE	
A1	01.08.20	Ø0.640 WAS Ø0.625	

RELEASED 00.05.11

Qty	Part Number	Description
X	D2922-041	SKIDTUBE ASSEMBLY
*	D2600-1	EXTRUSION
1	D2646	AFT CAP
4	D2648-3	WEARPAD
1	D2648-5	WEARPAD
22	D2649	CROSS BOLT SPACER
20	D2651-1	PLUG
20	D2651-3	O-RING
1	D2656-15	WEARSHOE
1	D2656-21	WEARSHOE
1	D2794	CAP
1	D2923	WEB
1	D2924	WEARSHOE
50	AKS7-1032-130 or AKS4-1032-130 or ALS7-1032-130 or ALS4-1032-130	INSERT
52	AN960JD10L	WASHER
52	MS27039-1-08	SCREW

GENERAL NOTES:

1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
2) LENGTH OF D2600-1 EXTRUSION REQUIRED BEFORE BENDING = 160 INCHES.*
3) INSERT D2923 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING.
4) USE DART DRILL TEMPLATE DT8406 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL AKS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL MS27039-1-08 SCREWS AND AN960JD10L WASHERS IN ALL INSERTS. SEAL WITH SIKAFLEX-241/291.
5) WELDING TO BE DONE PER DART QSI 004.
6) FINISH:
   ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2923 WEB
   POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
   BLACK ANTI-SKID PAINT AS INDICATED TO 0.50 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
7) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (20 PLACES).


DETAIL A
SCALE 1:4
1.250
1.250
ø0.375(REF)
2.500
DETAIL B
SCALE 1:4
BLACK ANTI-SKID
D2794 CAP
1/16
DETAIL C
SCALE 1:4
SEAL WITH SIKAFLEX-241/291 ADHESIVE
0.400
D2646 CAP
ø0.208
DRILL PRIOR TO D2646 CAP INSTALLATION. (2 PLACES)
BORE OUT END OF SKIDTUBE TO 0.75 DEPTH AND 0.070 WALL
MS27039-1-08 (1)
AN960JD10L (1)
(2 PLACES)
SECTION D-D
SCALE 1:4
FOR ø0.375 HOLES ONLY
D2649 SPACER
D2923 WEB (REF)
5
AFTER BENDING AND DRILLING ASSEMBLY PERFORM THE FOLLOWING FOR ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.030 X 45°
2. INSERT D2649 SPACER (22 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2649 SPACER TO ø0.313 X 0.75 DEEP
AKS7-1032-130 (REF)
(TYP 50 PLACES)
4
RELEASED
D2922-1 BENDING DETAIL
R30.0
USE D2600-1 EXTRUSIOIN
2
5.00
123.59
D2922-1 DRILLING DETAIL
REFER TO DETAIL A
REFER TO DETAIL A
6.250 PITCH
2 EQUAL SPACES
12.500
7.725 PITCH
2 EQUAL SPACES
15.450
2.500
2.500
2.500
D2923 WEB
3
6
ø0.640
ø0.625
(2 PLACES)
(44 PLACES) ø0.375
FINISH PER SECTION D-D
2.00
4.37
15.000
2 EQUAL SPACES
5.000 PITCH
9.982
18.042
27.932
35.657
57.060
68.471
D2922-041 ASSEMBLY DETAIL
REFER TO DETAIL B
27.5
1.5
1.5
BLACK ANTI-SKID
15.9
REFER TO DETAIL C
1.5
1.5
4
1.00 (REF)
D2656-15 WEARSHOE (1)
D2656-21 WEARSHOE (1)
D2924 WEARSHOE (1)
D2648-5 WEARPAD (1)
D2648-3 WEARPAD (4)
MS27039-1-08 SCREW (1)
AN960JD10L WASHER (1)
(50 PLACES)
7
DESIGN RF
DRAWN BY RF
CHECKED
APPROVED
DATE 99.10.14
DART
DART AEROSPACE USA, INC.
BELLEVUE, WA
DRAWING NO. D2922
REV. A
SHEET 2 OF 2
TITLE OH-58 SKIDTUBE ASSEMBLY
SCALE 1:20
SHOP COPY
RETURN TO ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 28047A